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ABSTRACT

This year-end evaluation report of the Chapter 1 Early Childhood Education (Preschool) Program in Portland (Oregon) Public Schools is a narrative supplement to the statistical forms used by Chapter 1 Education Consolidation Improvement Act (ECIA) evaluation and is organized into six sections: (1) introduction; (2) description of the program, including organization, characteristics of the student population, recruitment and attendance, facilities and learning materials, daily educational activities, and project costs; (3) evaluation methodology and findings, including language skills, numerical concepts, small motor skills, and social skills; (4) follow-up study of former program students in kindergarten and grade 3; (5) observations and comments; (6) summary and conclusions. The purpose of the preschool program is to provide educationally and economically disadvantaged children with the experiences needed to ameliorate the disadvantages resulting from their circumstances. The evaluation focuses on academic achievement, with attention to social and physical skills in preschool and kindergarten. At the preschool level, year-end evaluation results and observations during the year continue to show program improvements. Results for the last four years tend to show more noticeable gains, especially in basic skills, and observations tend to show more productive student involvement. The results of follow-up studies are mixed. The Record of Goals Mastery Form and the Student Rating Form are appended. (BAE)

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ED 281875

1985-86 EVALUATION REPORT

ECIA, CHAPTER I EARLY CHILDHOOD EDUCATION PROGRAM

IN THE PORTLAND PUBLIC SCHOOLS

Research and Evaluation Dept.
Portland Public Schools
Portland, Oregon
Walter E. Hathaway, Director

Kan Yagi

August, 1986

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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Chapter 1 Program
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Salem, OR 97310-0290

END OF YEAR REPORT
Chapter 1, ECIA, Report for 1985-86 School Year

DISTRICT IDENTIFICATION

District Name: Portland School District #1

District Address: 501 N. Dixon St., Portland, OR 97227

County Multnomah

CONTACT PERSON COMPLETING REPORT: Kan Yagi

Phone Number of Contact Person: 249 - 2000, X335

CHAPTER 1, ECIA, PARTICIPATION INFORMATION

1. Term of Program: [X] School Year Program or [ ] Summer School Program
Summer School Programs need NOT COMPLETE NOW. Submit Summer School Information by August 1, 1986.

2. Number (unduplicated count) of Chapter 1 students.

Grade	Public*	Nonpublic
Pre K------	125	
K----------		
1----------		
2----------		
3----------		
4----------		
5----------		
6----------		
7----------		
8----------		
9----------		
10---------		
11---------		
12---------		
Total		

* *NOTE: Total of Public student count should equal Total on "Year of Birth" table (p. 14) and Total District Enrollment of Public students (p. 12, number 4).*

Form 581-2332 (Rev. 3/86)

3. Number of students using services by status.

	Public			Nonpublic		
	Carried Over	New to Program	Exited Students	Carried Over	New to Program	Exited Students
Pre K		125				
K						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
TOTAL						

4. Total number (unduplicated count) of Chapter 1 students by racial/ethnic group and by type of school.

RACIAL/ETHNIC GROUP	Total DISTRICT Enrollment		Enrollment in CHAPTER 1	
	Public*	Nonpublic	Public	Nonpublic
AMERICAN INDIAN OR ALASKAN NATIVE .			6	
ASIAN OR PACIFIC ISLANDER			7	
BLACK, NOT OF HISPANIC ORIGIN . . .			22	
WHITE, NOT OF HISPANIC ORIGIN . . .			87	
HISPANIC			3	
RUSSIAN				
TOTAL UNDUPLICATED COUNT . . .			125	

5. Number of staff employed in your Chapter 1 program with Chapter 1 funds reported in full-time equivalents by job classification. (regular term only)

JOB CLASSIFICATION	FULL-TIME EQUIVALENT
SUPERVISORY STAFF	1.0
TEACHERS	3.0
TEACHER AIDES	4.0
CURRICULUM SPECIALISTS	
SUPPORT SERVICES STAFF	0.5
CLERICAL STAFF	1.0
OTHERS (_____)	0.2

NOTE: 1.0 is full-time and report to the nearest tenth.

6. Indicate the estimated expenditures and sources of funds used to support your Chapter 1 Program.

CHAPTER 1 FUNDS	$ 234,602
DISTRICT FUNDS	$
OTHER FUNDS (Specify)_____	$
TOTAL FUNDS	$ 234,602

7. Give the Number of Public School Attendance Areas:

   a. Eligible for Chapter 1 Services During the Regular Term _____

   b. Receiving Chapter 1 Services During the Regular Term _____

EDUCATION CONSOLIDATION AND IMPROVEMENT ACT

D. CHAPTER 1 EARLY CHILDHOOD EVALUATION FORM

School Name Chapter I Preschool District Name Portland School District

Grade: (Check One)
- X Pre-Kdg.
- ____ Kdg.
- ____ 1st Grade

Subject Matter: (Check one)
- X Reading
- X Language Arts
- X Math
- X Other (specify) Small Motor & Social Skills

Pretest: Record of Goals Mastery (Name of Test) 1977 (Edition) (Portland Developed) (Form) (Level)

Posttest: (Same) (Name of Test) ____ (Edition) ____ (Form) ____ (Level)

Portion of Test administered:
- ____ Subtest only
- X Total test

Type of score reported:
- X Raw
- ____ Stand

Title of Subtest: ____

Student Information Student Code #	Pretest Score	Posttest Score
1. NP	24	35
2. JK	17	23
3. LK	13	21
4. NT	26	28
5. JJ	3	24
6. LVV	13	15
7. RW	0	32
8. JC	24	29
9. RH	10	27
10. RJ	11	25
11. SL	9	33
12. BL	2	28
13. AL	12	32
14. JM	7	33
15. AM	8	17
16. MM	6	14
17. BM	32	33
18. YW	22	30
19. SS	13	32
20. LS	8	23
21. TR	24	29
22. AB	27	30
23. LJ	7	19
24. AC	7	22
25. CD	8	18

* Total test was used but scores are recorded and reported for only four subjects: Language, Math, Small Motor and Social Skills.

581-2315 (Rev 8/85)
dew/0829G

STUDENT INFORMATION STUDENT CODE #	PRETEST SCORE	POSTTEST SCORE
JF	15	36
JG	27	41
AG	16	20
RH	7	21
KH	28	29
NK	19	27
VL	8	17
JM	18	22
AR	12	17
HR	17	27
JR	3	19
SS	13	24
DB	5	24
MCG	4	28
LB	30	40
BA	23	35
TM	22	37
MO	24	38
RS	9	31
SC	29	39
JE	34	41
GG	13	35
WJ	7	30
CJ	10	28
RM	35	41
RM	24	36
JM	26	40
BO	26	40
JT	19	33
TP	12	30
VP	11	32
KM	13	37
MB	17	34
DB	35	41
RB	35	39
AMC	21	36
AD	28	37
SE	24	36
JF	19	36
DG	22	37

STUDENT INFORMATION STUDENT CODE #	PRETEST SCORE	POSTTEST SCORE
NH	25	38
KH	22	33
TK	27	41
BL	30	41
JM	8	29
NM	14	37
HM	32	40
JM	30	37
TR	17	35
AT	26	39
BH	24	37
ML	18	34
JK	22	36
RM	26	39
KW	24	37
MR	23	36
JS	31	40
SW	30	41
CR	16	36
JD	35	41
AH	19	40
TS	29	41
DJ	23	34
SA	24	33
DL	12	39
SK	34	41
LP	12	36
DM	22	39
LX	14	25
TV	27	37
RR	18	39
MC	8	17
JS	22	36
CM	25	40
DS	32	41
AF	32	39
BM	26	39
CL	31	39
AC	33	41
RL	31	40
TB	27	41
JF	18	39
LG	26	38
BH	22	35
BH	25	39
TR	27	40
CS	31	40
KC	26	41

Chapter I Early Childhood Education Program

Year-End Evaluation Report

August 1986

Kan Yagi
Evaluation Specialist

Evaluation Department
Portland Public Schools
Portland, Oregon

6729E

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INTRODUCTION

This year-end evaluation report concludes the fourteenth year of operation of the Chapter I Early Childhood Education (Preschool)* Program in Portland Public Schools. The report is prepared as a narrative supplement to the statistical report forms used by Chapter I ECIA evaluation and is organized into six major sections: introduction, description of the program and evaluation methodology and findings, follow-up study of former program students in kindergarten and grade 3, observations and comments, summary and conclusions. The purpose of the Preschool program is to provide educationally and economically disadvantaged children the experiences needed to ameliorate the disadvantages resulting from their circumstances.

DESCRIPTION OF THE PROGRAM

Information for the program description was obtained by observations of classrooms, reviews of program documents and materials, and interviews with the staff. The description includes the following: (a) organization of the program, (b) characteristics of the student population, (c) recruitment and attendance, (d) facilities and learning materials, (e) daily educational activities and (f) project costs.

Organization of the Program

This year, three Chapter I Preschool classrooms were again located at Kenton School; the one at Ball School was supported by other funds and is not included here. All classrooms held two sessions of 2-1/2 hours daily - a total of six classes. The capacity of the program was 120 children in classes of 20 each.

*The term, preschool, will be used here to identify the program and students in prekindergarten. The term, early childhood education, has sometimes been used in other studies to include kindergarten and other primary grades.

Each classroom was staffed with a certified teacher and an aide. All three teachers had previous experience in the program; one with experience replaced another who was a preschool teacher for several years. The principal at the school provided overall supervision of the classrooms and otherwise treated them like any others in the building. Specific administrative functions peculiar to the program were handled through the Headstart/Chapter I Program Coordinator's office.

Characteristics of the Student Population

Table 1 shows the geo-cultural background of students enrolled during the 1985-86 school year. The majority was European-American (70 percent), with 30 percent being minority, which is slightly higher than the 26 percent minority enrollment for the entire district. Most students reside in the North Portland area which is predominantly European-American.

TABLE 1

Geo-cultural Composition of Student Population

Geo-cultural Group	N	Percent
European-American	87	70
African-American	22	18
Hispanic-American	3	2
Asian-American	7	6
Native-American	6	5
Total	125	101*

* Percent greater than 100 due to rounding.

Recruitment and Attendance

Eligibility for participation in the program is based on age, residency within the boundaries of Chapter I school service areas, family income, number of parents and siblings, and an appraisal of the student as educationally disadvantaged.

Enrollment of students in the Chapter I preschool program is voluntary. Parents who seek to enroll students are interviewed to determine the reasons for enrolling their children, family's educational history, children's medical history and factors which might influence the children's educational achievements positively, as well as negatively. Accommodations are usually made during the year for children who were attending preschool programs in other cities or states and seek to become enrolled in the Portland schools.

Knowledge of the program is usually gained through word of mouth with some students referred by schools and human service agencies. The program has become so well-known that by the end of a school year, enrollment for the next year is virtually complete. A waiting list of eligible students is maintained so vacancies are filled without significant delay.

Student attendance each month is shown in Table 2 for all classrooms combined. The percent student attendance is determined by dividing the total days present by the total days membership. The resulting figure represents the percent of students in attendance on a typical school day. The monthly averages tend to be about 88 percent, which is about 4 percent higher than

last year and slightly higher than the averages of all previous years. The average for kindergarten children this year was 92 percent or about equal to previous years, with averages for all K-12 students about 93 percent. It is interesting to note that over the last ten years since attendance data have been reported for the preschool program, average attendance has risen from the low 80's to the high 80's.

TABLE 2

Percent Student Attendance

Month	Percent
September	92
October	91
November	89
December	87
January	87
February	86
March	89
April	89
May	88
June	87

Tabulations of individual attendance indicated some students were absent more frequently than others. Twenty two (20 percent) of the 108 students who were enrolled for 140 days or more were absent 30 days or more; 5 of them were absent 40 days or more. The number of students with large numbers of absences is smaller than in previous years. A large number of absences for students

with extenuating circumstances such as serious illnesses may not be particularly undesirable, especially at the preschool level; however, if students are allowed high frequencies of absences through subsequent grades, the pattern could result in serious handicaps for the children. Besides being handicapped academically, children could develop the attitude that it is acceptable to miss school occasionally. It is widely acknowledged that students who miss school often have difficulty keeping up with their classroom.

The question of student turnover, especially among disadvantaged children, arises frequently. Attendance records this year indicated nearly 85 percent were enrolled for 140 days or more, or nearly 90 percent of the school year. Turnover this past year appeared to be lower than in all previous years.

Facilities and Learning Materials

Each classroom was arranged with a large area of tables and chairs for seatwork and snacks. Another large, carpeted area was used for whole group activities. Smaller areas were arranged to accommodate individual or small group activities such as a library, playhouse facilities, sandtable, and a variety of games and puzzles. Each room had a record player and other audio-visual equipment was shared within the school.

Arrangements were made for students to go to the library once a week. There they would listen to a story read by the librarian, browse, and select books

to be taken back to their rooms for the week. Regular use of books was common in every classroom. Children were often encouraged to look at books as an alternative for free play or fill in activity.

On good days, children were taken outdoors where they participated in large motor skills development, e.g., climbing, skipping, hopping, galloping, and various games where the ability to follow directions and social skills were involved. Available playground equipment, painted lines, and other objects were used in these experiences.

Teachers and aides showed considerable ingenuity in designing activities and the quantities of consumable seat work material being used daily. To add to the variety, students often grew plants and participated in other kinds of science-like projects. In general, the materials and equipment appeared sufficient and appropriate to facilitate meeting the instructional goals as shown on the Record of Goals Mastery (attached).

Daily Educational Activities

As in past years, there is a great similarity among classrooms in the kinds of activities one would observe. There is a mixture of large and small group activities alternated during a session. Each session usually begins with a large group activity involving roll call; the identification of the day, date and month; and a determination of the kind of weather. Small group activities, e.g., coloring, counting, cutting, pasting, identified with the achievement goals usually follow. Although there are variations in schedules

across classrooms, they generally include a story time, large and/or small motor development activity and snack time, all of which are conducted in large group settings. Guided free activities and most of the specific academic skill development activities are usually individual or small group arrangements. The design for each activity is largely the discretion of the teacher.

Project Costs

The budget for the 1985-86 school year was $234,602 which was larger than the previous year. The major cost item, of course, was salaries and benefits of personnel. An estimate of the cost-per- pupil derived by dividing the total budget by the capacity of the program (120 students) was nearly $2,000.

EVALUATION METHODOLOGY AND FINDINGS

Most classroom instruction is targeted for those achievements or skills that can be learned and which are less dependent on maturation for attainment. Language skills and numerical concepts, along with some small motor and social skills, are primarily learned. On the other hand, large motor and perceptual skills are heavily influenced by maturation - performances which are highly associated with physical maturity. Evaluation for Chapter I purposes reflects this priority of instruction.

The evaluation information is organized according to the program goals in the four subject areas of language, arithmetic, small motor skills and social skills. The Record of Goals Mastery was used in the fall (October) and again in the spring (May) to record the achievements of goals in these areas. The data were tabulated to show the percentage of students who demonstrated mastery of the skill at each time of the year. Differences in the percentages of students demonstrating mastery at the beginning and end of the year indicate the achievements of the students during the year. The scores and differences shown in Tables 5, 6, 7 and 8 are based on students with matched Fall and Spring scores; therefore, the number is smaller than the number enrolled during the year or enrolled at any one time.

Language Skills

As shown in Table 5, the percent of students demonstrating mastery of each language skill by the end of the school year ranged from 51 percent to 97 percent. The percent of students who appeared to have achieved the skill during the year ranged from 4 to 61 percent, depending on the particular skill; about a quarter to one-third achieved the skills during the year. Longitudinal data (not shown) now spanning ten years showed that achievements in language generally appear to be about the same as they were the last few years and noticeably better than the average of the first five years. Some caution should be exercised in interpreting this finding because teachers differ in their ratings and, due to turnover, the composition of the teaching staff changes each year. Teacher rating tendencies are critical especially when averages are based on three or four teachers.

The most frequently achieved skills are identifying common objects, e.g., parts of the body, naming animals and describing objects according to colors and locations. These skills are also ones which are more commonly reinforced at home or outside of school. Listening with increasing attention span was also achieved by most students perhaps reflecting some maturity. Mastery of language skills more characteristically associated with school, e.g., giving answers to questions about a story and reciting rhyming combinations, was demonstrated less frequently. In fact, the mastery of these skills, which tend to be more academic in nature, appears to be about the same as mastery of numerical concepts which are likewise quite academic in nature.

Numerical Concepts

Table 6 shows the percent of student achievements in numerical concepts. The percent showing mastery at the end of the school year ranged from 60 to 83 - scores that were lower and a range that is slightly smaller than that for language. The percent who appeared to have achieved the skill during the year ranged from 26 to 68, depending on the particular skill. Numerical concepts are largely those achieved at school and not practiced as much at home or outside of school so it is not surprising that more of these skills were learned than language during the year.

The pattern of achievement of numerical skills over the last ten years (data not shown) is much like that for language, i.e., in general the percentages of students demonstrating mastery at the end of the year were about the same as the past few years, but the percentages are generally higher than the first five years. Again, the same caution due to teacher differences holds in the interpretation of these findings.

Nearly all of the numerical concepts appear to be those which are addressed most commonly in schools and are less likely to be reinforced in homes or outside of school. Perhaps for this reason, the percent of children demonstrating mastery of these concepts is slightly lower than for language at both the fall and spring observations. Mastery of quantity and size comparisons is demonstrated more frequently than skills which are more academic in nature, e.g., associating symbol with number.

Small Motor Skills

Achievements of small motor skills are shown in Table 7. The children mastered most of these skills quite easily, with large percentages acquiring the more difficult skills of using scissors, using opposing thumb and pounding nails during the year. Except for using scissors and pounding a nail with a hammer about 90 percent or more of the children demonstrated mastery of the small motor skills by the end of the school year. Pounding nails, a difficult task even for adults, was mastered by nearly 75 percent of the children. Manipulating an object with moving parts, e.g., scissors, continues to be among the most difficult skills to master.

Social Skills

Table 8 shows the achievements of social skills. The percents of students demonstrating mastery of the skills in the fall are fairly high. At the same time, the percents of students demonstrating mastery at the end of the year are a little lower than in previous years. For these reasons, the percents of students achieving the skills during the year are generally lower than those achieving the skills during the year in other areas.

In the last few years, increasingly more attention has been drawn to the behavior of students in schools and in classrooms, particularly on-task behavior. Perhaps due to the preschool teachers' own styles and the attention to student behavior, this past year the three teachers appeared to direct more attention to student involvement in educationally worthwhile activities than in earlier years. It is possible that the attention to student learning behavior, particularly during learning tasks, increased teacher sensitivity to social skills so inappropriate behavior was noticed more often. Over the years, observations of the preschool students in classrooms tended to indicate fewer incidents of socially inappropriate behavior and increasingly more appropriate, on-task behavior and the past year was no exception. Therefore, the lower ratings could be due to the increasing attention to behavior and, perhaps rater bias, than to a real difference in student social skills.

Overall, the achievements of the students in the four skill areas of language skills, numerical concepts, small motor skills and social skills tended to be quite satisfactory. Achievements appeared to be about equal to those of the last few years and better than in years previous.

Table 9 shows the percentages of students demonstrating mastery (expressed as percentages) of the objectives for each subject for the last ten years. The results for Spring 1986 show that except for reading/language skills, over 40 percent of the students demonstrated mastery of all goals in a subject. About 85 to 90 percent of the students mastered 75 percent or more of the goals in each area. It is possible that the increased attention of teachers and aides to time on task has resulted in increased performances.

TABLE 5

Language Skills

N = 135

LANGUAGE SKILL	Percent Mastering Skill: Pre-Test	Post-Test	% Gain
Describes objects according to their characteristics			
Colors:			
(red, yellow, blue)	61	83	22
(green, orange, purple)	53	82	29
(brown, black, white)	57	84	27
Location:			
(stove, bed, toilet, refrigerator, bathtub, sofa)	49	77	28
Answers simple questions by giving answers in complete sentences	22	83	61
Identifies common objects:			
(head, leg, arm)	91	97	6
(eyes, nose, mouth, ears, foot, knee, hand, fingers)	91	95	4
(rabbit, dog, cat, bird)	65	96	31
(horse, chicken, cow, goat, sheep)	26	61	35
(lion, tiger, monkey, elephant, seal, camel, bear, giraffe)	25	61	36
Listens with increasing attention span: (longer or more complex stories can satisfactorily be presented by the teacher as the year progresses)	50	96	46
Expresses self freely and clearly: (notifies teacher when it is appropriate, e.g., when s/he needs help or permission)	66	80	14
Gives clearly spoken, spontaneous answers to questions about a story	47	76	29
Orally identifies four simple rhyming combinations	14	51	37
Understands and uses simple prepositional relationships: (places objects in front of, behind, beside, under, around, inside, outside, on)	63	77	14

TABLE 6

Numerical Concepts

N = 78

NUMERICAL CONCEPTS	Percent Mastering Skill: Pre-Test	Post-Test	% Gain
Recognizes and identifies simple shapes:			
(points to and names: circle, square, triangle)	50	76	26
(points to and names: rectangle, diamond)	9	73	64
Distinguishes comparative sizes and quantities:			
(points to those objects that are identical in size within a group)	41	78	37
(points to the smallest and largest of six objects)	49	79	30
(points to which group has more and which has less of two groups of objects, e.g., 3 pencils and 6 pencils)	54	81	27
(places in order six objects of different size)	29	73	44
Associates numerals with the quantities 1-5:			
(states orally the appropriate number when shown from one to five objects)	56	83	27
(associates the oral numerals [zero to five] with the appropriate numerical symbol [0 to 5])	29	76	47
Begins to understand the concept of sets:			
(points to a set of objects that are placed among non-set objects)	15	60	45
Understands the concept of one more and one less:			
(points to which group contains one more object and which contains one less object than a comparison group)	14	60	46
Understands the concept of zero:			
(states orally when zero objects of a given type are presented)	13	81	68

TABLE 7

Small Motor Skills

N = 78

SMALL MOTOR SKILL	Percent Mastering Skill: Pre-Test	Post-Test	% Gain
Pinches off bits, squeezes, pounds, pats and pushes clay or dough	87	90	3
String beads	88	90	2
Manipulates puzzles: stacks materials, pegs, parquetry blocks	74	91	17
Uses crayons, paint brushes and pencils	59	88	29
Uses scissors correctly	47	84	37
Uses opposing thumb	55	92	37
Pounds a nail with a hammer	1	73	72

TABLE 8

Social Skills

N = 78

SOCIAL SKILL	Percent Mastering Skill Pre-Test	Post-Test	% Gain
Participates in a variety of activities during free play	57	80	23
Shares classroom toys with other children	55	74	19
Helps others when requested to do so	64	80	16
Uses classroom materials in the appropriate fashion	66	81	15
Able to play or work in small groups of peers (e.g., does not fight, dictate, or demand or submit to others)	48	71	23
Communicates with adults (e.g., does not demand excessive attention, ignore other children in favor of adults, reject adults and/or act in hostile fashion toward adults)	40	74	34
Able to encounter new situations in the classroom without fear (e.g., the student does not withdraw or lag back)	43	80	37
Demonstrates safety consciousness (e.g., awareness of dangerous objects, follows orders of teacher regarding safety issues)	56	80	24

TABLE 9

Percentages of Students Achieving 100, 75-99 and Less than 75 Percent of the Goals in Each Subject (1977 to 1986)

Year	Percentage	Reading/ Language	Numerical	Small Motor	Social Skills
1977	100%	16	19	33	55
	75-99%	79	58	64	38
	less than 75%	05	23	03	07
1978	100%	18	16	37	73
	75-99%	61	40	56	20
	less than 75%	21	44	06	07
1979	100%	15	15	45	Not Determined
	75-99%	39	27	20	
	less than 75%	46	58	35	
1980	100%	26	33	71	71
	75-99%	56	32	15	20
	less than 75%	18	35	14	09
1981	100%	30	18	30	67
	75-99%	53	50	68	22
	less than 75%	17	32	02	11
1982	100%	52	50	86	63
	75-99%	39	36	11	20
	less than 75%	10	14	03	17
1983	100%	68	64	87	76
	75-99%	27	32	12	17
	less than 75%	05	04	01	07
1984	100%	41	50	88	63
	75-99%	47	37	10	28
	less than 75%	12	13	01	09
1985	100%	42	43	65	68
	75-99%	45	32	32	18
	less than 75%	13	25	02	14
1986	100%	32	47	62	51
	75-99%	54	40	36	33
	less than 75%	14	13	2	16

FOLLOW-UP STUDY OF FORMER PROGRAM STUDENTS IN KINDERGARTEN AND GRADE 3

Conclusions of earlier follow-up studies conducted in 1978-80 of former Title I preschool students were that their performances in kindergarten were quite consistently better than those of other students in the same grade. However, in these earlier studies, teachers were asked to rate the performances of the former preschool students as compared to others in his or her class without actually rating the peers, i.e., matched comparison students or other comparable students were not selected with students in both groups rated simultaneously.

To overcome the weakness of not having appropriate comparison data, studies of the last five years have used comparison students matched according to school, grade, sex, geo-cultural group and, to the extent possible, month of birth. Also, district enrollment records were obtained and used to avoid selecting comparison group members who had preschool experiences in other district preschool classes.

Like the last four studies, the follow-up study of preschool students of 1984-85 was conducted in Spring 1986. A total of 121 of 165 former preschool students were found to be enrolled in kindergarten in 16 schools. Ratings were obtained for 99 matched pairs. For the remaining 22 students satisfactory matches could not be made for them or one of the pair left the school too early to permit an acceptable performance rating to be made. Again, a non-preschool comparison group of kindergarten students matched according to school, grade, sex, age and geo-cultural group was identified. Age matching was nearly always possible within a month or two, and only a few differences were greater than two months.

As in earlier studies, kindergarten teachers of the former preschool and comparison students were asked to rate each student's achievements in six skill areas using six-point rating scales (see attachment). Pairs of students were matched according to school and not classroom; therefore, members of a pair could have been rated by different teachers if there were more than one kindergarten classroom in the school. Students were to be rated below average (1-2), average (3-4), or above average (5-6), compared to other students in the class. Mean ratings were calculated for the preschool and comparison groups for the six skill areas. The results are shown in Table 10.

TABLE 10

Performance Ratings of Preschool and Comparison Groups (N = 99)

Skill Area	Preschool Mean	Preschool SD	Non-Preschool Mean	Non-Preschool SD	Mean Difference (P - NP)
Ability to Remain on Task	3.52	1.40	3.74	1.29	-0.22
Language Skills	3.81	1.38	3.65	1.30	0.16
Numerical Concepts	3.87	1.32	3.65	1.37	0.22
Small Motor Skills	3.63	1.33	3.62	1.22	0.01
Large Motor Skills	4.05	1.01	3.89	1.04	0.16
Social Skills	3.56	1.22	3.69	1.09	-0.13

The sign test was used to determine if the performances of one group were consistently better than those of the other across the six skill areas. No consistent difference was found between the two groups. Also, none of the group differences on specific skills were significant as determined by

t-test. These results are interpreted to indicate there were no differences in the kindergarten performances of the students who attended preschool the previous year and those who did not attend preschool.

Results of follow-up studies which use matched groups of non-preschool students as comparisons have now been accumulated for five years. In the 1982 study, it was noted that students with preschool experiences received higher ratings than the comparisons in all six skill areas. However, in the 1983 and 1984 studies, with two exceptions in 1983, the comparison students received higher ratings in all six skill areas. A possible explanation of the differences in performances was offered based on the fact that the 1982 ratings were obtained slightly earlier in the school year.

In the 1985 study, the results showed the ratings of former preschool students once again were higher in all six skill areas. These findings were opposite to those of the previous two years and tended to contradict the explanation offered for the differences. These mixed results are difficult to explain and they do not necessarily rule out the effects of the preschool treatment.

Given the realities and practicalities of the preschool programs in Portland Public Schools, it is difficult to conceive a research design that in a few years time could satisfactorily demonstrate the effects, or lack of effects, of what may be considered a representative preschool program. Such a program does not exist. The lack of a common treatment probably accounts for year to year differences in PPS preschool programs and perhaps, for many of the

contradictory findings appearing in publications of research on preschool education. A most unfortunate interpretation of the contradictory findings is that there are "no significant differences" resulting in discontinuing preschool education. Programs differ qualitatively, and these differences need to be examined. Few educational programs, including our own, are theory based and implemented accordingly; thus, research on qualitative aspects is made increasingly more difficult. Researchers are left to sift through the evidence to identify critical treatment variables. Once located, opportunities to examine these variables in their purer form in laboratory settings, let alone in school settings, are rare and not frequent enough to produce conclusive results.

In the Portland Chapter I Early Childhood Education program an attempt is being made to have classroom teachers implement a more theory based instructional program. Such a program emphasizes student involvement in educationally worthwhile activities, e.g., being on task for as much time as possible. Observations the past few years have indicated that preschool students can be taught to be involved in educationally worthwhile activities nearly one hundred percent of the time. The question now is how can every teacher accomplish this.

Another follow-up study of former preschool students is one in which basic skills achievement test scores of students in grade three are examined. In the 1983 follow-up study of former preschool students of 1981-82 in kindergarten, a matched group of preschool students was identified for comparison purposes. In the 1985-86 school year just completed, these

students were expected to be in grade three where objective test information is available from the district wide testing program. Of the 141 matched pairs of students who were included in the kindergarten study, 67 pairs were found to be enrolled during the 1985-86 school year. For the remaining, one or both members of the pair were not enrolled in Portland schools.

Except for one score for one student in language, reading, math, and language achievement test scores for Fall 1985 were available for 47 of these 67 matched pairs of students. For the remaining 20 pairs, 8 members of the preschool group and 9 members of the comparison group were identified as being in grade 2 indicating no difference in retention for the two groups. In four pairs, the grade was not determined for one or both members, e.g., SLC. Students in grade 2 do not participate in districtwide testing; therefore, no scores were available for them. Fall achievement scores for these 47 matched pairs of students are shown in Table 11.

TABLE 11

Fall 1985 Mean Achievement Test Scores of Former Preschool Students of 1981-82 and Comparison Students in Grade 3.

	FALL 1985					
		Former Preschool		Comparison Group		
	N	Mean	SD	Mean	SD	Mean Difference
Reading	47	184.49	15.03	189.55	14.49	5.06*
Math	47	182.79	12.35	186.38	12.02	3.59
Language	46	191.11	11.63	194.22	11.45	3.11

*P less than .05.

The results in Table 11 show the scores of the comparison group are higher than those of the former preschool group for all three subjects with only the difference for reading reaching the accepted level of a statistically significant difference (p less than .05). Because correlations among the three subjects are high (r = .60 to .80 rather than .20 to .40), it is not surprising to find all differences in favor of one group. Comparison group scores are at or near the District average for all subjects as might be expected although group members were not randomly selected. These findings which appear to be the opposite of those observed last year are difficult to interpret.

In the 1985 follow-up study reported last year, the results showed the achievement scores for the 21 former preschool students were numerically higher than those of their matched comparison peers in all three subjects; however, none of the differences reached the accepted level of significance. It is possible that differences observed in these studies are merely chance differences and interpretations which consider the consistency of findings across subjects may be tenuous due to the high correlations among them. More data over several years are needed to determine the reliability of the findings.

OBSERVATIONS AND COMMENTS

Observations of classrooms were made during the year to determine if the items in the Record of Goals Mastery, properly reflected the content of the

curriculum being taught, and (2) to examine instructional practices for program improvement purposes. In this manner, both curriculum and instruction were studied.

The Record of Goals Mastery was developed several years ago with the cooperation of the preschool teachers in the classrooms at that time. Data accumulated over the years and teachers' observations have indicated where improvements in the instrument can be made and a revised edition will be used next year. Revisions are in terms of items and not major content areas.

Matching and arranging the curriculum and activities to the skills and maturity of students with a wide range of abilities is difficult. Add to this the difficulties of instruction particularly when children have not learned to cooperate, follow directions, remain on task, etc. In observing classroom activities, it is not always clear what the students are expected to acquire through their participation in the activity, and more often than not students are not aware of what they are expected to learn. At what point in the students' education should they learn the purpose of their involvement in an activity, or is it important that they know?

Students participated in a number of activities in which the purpose was not announced or not easily discernible. For example, the students were given options of participating in three of four activities, e.g., sand table, paint, playhouse, library, and made their selections by raising their hands. In most instances, when the first option was announced, several hands would shoot up and an appropriate number would be given permission to go to the designated area. Likewise when the second option was announced, hands would shoot up and students released to designate areas. Facial expressions and behaviors of

many students seemed to indicate they were unaware of the choices or the choice process. They simply raised their hands following the example of their classmates. When they got to their areas, they simply did as they pleased. Some even went so far as to gravitate to other areas after only a brief stay in their selected area. In general, there was little or/no association of expected behavior with the selected activity.

Another specific example was students in an area with water of various colors in clear plastic containers. They playfully mixed the colors without apparent regard to the quantity or quality of the water and the end product, and neither the teacher nor the aide intervened in anyway. The observer asked a student what colors he had used to produce the color he held in his hands. The student simply pointed to the ones nearest him which were not the ones he actually used, and he playfully guessed at naming the colors when he was asked by the observer to name them. Here again there was no association of expected behavior with the activity.

When students participate in activities where the activities themselves elicit educationally productive behavior, e.g., using books, solving puzzles, direct instruction is not always required to see that student time is spent productively. When activities do not automatically result in productive behavior, e.g., play house, sand table, painting at easel, direct instruction seems to be required to result in appropriate student behaviors. At some point in the students' education, they must learn that they should be educationally involved even when the teacher is not providing direct

instruction. Observations next year are expected to focus on various activities and the behaviors of students as they engage in these activities.

Follow-up studies which have attempted to determine the advantages, if any, of preschool experiences on performances of students in kindergarten and later on basic skills achievement tests have been difficult to interpret. The major problem is the inconsistency or unreliability of the findings from year to year and group to group. In general, performances of former ECE students in kindergarten were a little better in spring 1982, 1985, and 1986; performance of non-ECE students appeared to be a little better in 1983 and 1984. Whether or not the differences could be attributed to the students of the particular group of teachers, or simply to chance differences because there was a relatively small number of preschool teachers (N = 3 to 5) and students (N = 70 to 100) involved is not known. It is also possible that assumptions made in the design and implementation of the research were not tenable.

Given the small number of teachers and students involved in the preschool program it seems necessary to formulate hypotheses in predicting kindergarten performances of students of particular teachers or of teachers with particular styles. This approach appears to have promise inasmuch as the preschool experience is the first formal educational experience, as far as is known, so the influence of previous formal educational experience is not a factor. The difficulty, however, is the identification of particular teacher styles. Also, a review of the small amount of data already accrued for classrooms tends to show inconsistent results even for individual teachers from year to year.

Experiences with follow-up studies over several years and the fact that the results appear somewhat inconsistent from year to year tend to raise questions about how the research can be conducted given the circumstances of school operations. Few conditions are controllable or can be taken into account by data analyses especially when populations are small, so findings are not always replicated. Investigations must continue and data accumulated over several years before sound generalizations can be formulated.

SUMMARY AND CONCLUSIONS

The evaluation of the Chapter I Early Childhood Education Program includes information on students for the year just completed and on students one year and four years later. Most of the evaluation tends to focus on academic achievement, especially four years later, with attention also to social and physical skills in preschool and kindergarten.

Year end evaluation results and observations during the year continue to show program improvements over the years despite some changes in instructional personnel each year. Results for the last four years tend to show more noticeable gains especially in basic skills and observations tend to show more productive student involvement. Perhaps the District's focus on excellence is having an influence even at the preschool level.

Results of follow-up studies are difficult to interpret. First, the results for students in kindergarten were somewhat positive as they were last year.

However, over the last five years, the results based on matched groups of students have been mixed. For example, for the two years prior to the last two years, performances of the comparison groups were a little higher. Results for the last five years cannot be considered conclusive.

Grade three achievement test scores of former preschool students and their matched peers have been obtained for the last two years. In the earlier studies the scores of former preschool students were compared with grade level peers. In as much as the scores in these studies did not consistently favor either the former preschoolers or the comparison students, the results are interpreted as being inconclusive. This finding is not inconsistent with other studies where small numbers of students have been involved. There are a number of significant variables and conditions which have to be controlled or accounted for to be able to demonstrate causal relationships as many studies tend to imply.

In the Portland Chapter I ECE studies, the failure to find reliable relationships between preschool and outcome measures is not interpreted to mean that preschool does not have a signficant effect. It does mean, however, that to demonstrate causal relationships, the research must control or somehow account for significant variables and conditions and involve outcomes that are predictable. Only then will we be able to achieve significant effects with any degree of reliability.

Student's Name _____ Teacher's Name _____
Student's Birth Date _____

EARLY CHILDHOOD EDUCATION
Record of Goals Mastery

Working -- skill has been introduced and instruction is still needed.
Mastery -- skill has been mastered.

	Sept		May	
	Working	Mastery	Working	Mastery
Language Skills				
Describes objects according to their characteristics				
Colors: (red, yellow, blue)				
(green, orange, purple)				
(brown, black, white)				
Location: (stove, bed, toilet, refrigerator, sink, bathtub, sofa)				
Answers simple questions by giving answers in complete sentences				
Identifies common objects: (head, leg, arm)				
(eyes, nose, mouth, ears, foot, knee, hand, fingers)				
(rabbit, dog, cat, bird)				
(horse, chicken, cow, goat, sheep)				
(lion, tiger, monkey, elephant, seal, camel, bear, giraffe)				
Listens with increasing attention span: (longer or more complex stories can satisfactorily be presented by the teacher as the year progresses)				
Expresses self freely & clearly: (notifies teacher when it is appropriate -- e.g., when s/he needs help or permission)				
Gives clearly spoken, spontaneous answers to questions about a story				
Orally identifies four simple rhyming combinations				
Understands and uses simple prepositional relationships: (places objects in front of, behind, beside, under, around, inside, outside, on)				
Numerical Concepts				
Recognizes & identifies simple shapes: (points to and names: circle, square, triangle)				
(points to and names: rectangle, diamond)				
Distinguishes comparative sizes and quantities:				
(points to those objects that are identical in size within a group)				
(points to the smallest & largest of six objects)				
(points to which group has more & which has less of two groups of objects -- e.g., 3 pencils & 6 pencils).				
(places in order six objects of different size)				
Associates numerals with the quantities 1 to 5: (states orally the appropriate numeral when shown from one to five objects)				
(associates the oral numerals (zero to five) with the appropriate numerical symbol (0 to 5)				
Begins to understand the concept of sets: (points to a set of objects that are placed among non-set objects).				
Understands the concept of one more and one less: (points to which group contains one more object & which contains one less object than a comparison group)				
Understands the concept of zero: (states orally when zero objects of a given type are presented)				
Small Motor Skills				
Pinches off bits, squeezes, pounds, pats and pushes clay or dough				
Strings beads				
Manipulates puzzles; stacks materials, pegs, parquetry blocks				
Uses crayons, paint brushes, and pencils				
Uses scissors correctly				
Uses opposing thumb				
Pounds a nail with a hammer				

	Sept		May	
	Working	Mastery	Working	Mastery
Social Development				
Participates in a variety of activities during free play				
Shares classroom toys with other children				
Helps others when requested to do so				
Uses classroom materials in the appropriate fashion				
Able to play or work in small groups of peers (e.g., does not fight, dictate, demand or submit to others)				
Communicates with adults (e.g., does not demand excessive attention, ignore other children in favor of adults, reject adults and/or act in a hostile fashion toward adults).				
Able to encounter new situations in the classroom without fear (e.g., the student does not withdraw or lag back)				
Demonstrates safety consciousness (e.g., awareness of dangerous objects, follows orders of teacher regarding safety issues)				
Additional Skills				
Teachers may find the remainder of this form useful in assessing the following skills.				
* * *

Student's Name_____ School No._____

Student Rating Form

Please rate this child's general achievement by circling the appropriate number for each item.

In using the scale, rate the child's achievements by comparing them with other students in the class.

Level of Achievement in:	Achievements as compared to other students in the class: Below Average		Average		Above Average	
A. Ability to remain on task	1	2	3	4	5	6
B. Language skills	1	2	3	4	5	6
C. Numerical concepts	1	2	3	4	5	6
D. Small motor skills	1	2	3	4	5	6
E. Large motor skills	1	2	3	4	5	6
F. Social skills	1	2	3	4	5	6

Please make any comments you may wish:_____

_____

_____

_____

KY/ams
3/1/82